WHAT IS CLAIMED IS:

1. A method for detecting a particle on a substrate, wherein the substrate is used in the fabrication of an integrated device, the method comprising:

contacting the substrate with a monomer, wherein the particle catalyzes the polymerization of the monomer, and

detecting the particle using a particle counter.

2. The method of claim 1, wherein the particle counter detects a property selected from the group consisting of number of particles, sizes of the particles, positions of the particles, and combinations thereof.

3. The method of claim 1, wherein the particle counter is capable of detecting particles on both sides of the substrate without unmounting the substrate.

4. The method of claim 1, wherein the particle counter detects particles optically.

5. The method of claim 4, wherein the optical scanner is a laser scanner.

6. The method of claim 4, wherein the particle counter detects a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization.

7. The method of claim 1, wherein the composition of the particle is identified.

8. The method of claim 7, wherein the composition of the particle is identified by the polymerization rate of the monomer.

9. The method of claim 8, wherein the monomer is polymerized by a plurality of particle types.

10. The method of claim 8, further comprising repeating the contacting and detecting steps.

11. The method of claim 1, wherein the substrate is contacted with a plurality of monomers.

12. The method of claim 11, wherein a plurality of monomers contact the substrate simultaneously.

13. The method of claim 11, wherein a plurality of monomers contact the substrate sequentially.

14. The method of claim 1, wherein the particle is a metal.

15. The method of claim 14, wherein the metal is copper.

16. The method of claim 1, wherein the substrate comprises silicon.

17. The method of claim 16, wherein the substrate comprises a single crystal silicon wafer.

18. The method of claim 1, wherein the monomer is in the vapor phase.

19. The method of claim 1, wherein the monomer is an alkene.

20. The method of claim 19, wherein the alkene is selected from the group consisting of styrene, methyl acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile.

21. The method of claim 1, wherein the monomer is selected from the group consisting of aniline and thiophene.

22. The method of claim 1, further comprising an initiator.

23. The method of claim 22, wherein the initiator is benzyl bromide.

24. The method of claim 1, wherein the substrate is irradiated with electromagnetic radiation.

25. A method for detecting a particle on a substrate used in integrated device fabrication, the method comprising:

obtaining a first particle detection on the substrate;

contacting the substrate with a first monomer, wherein the particle catalyzes the polymerization of the first monomer;

obtaining a second particle detection on the substrate; and

comparing the results of the particle detection steps to detect the particle.

26. The method of claim 25, wherein the composition of the particle is identified as a first type of particle, which catalyzes the first type of monomer.

27. The method of claim 26, wherein the composition of the particle is identified by the polymerization rate.

28. The method of claim 26, wherein the composition of the particle is identified as a first type of particle, which does not catalyze the first type of monomer.

29. The method of claim 26, wherein the compositions of plurality of types of particles are identified through their different rates of polymerization of the monomer.

30. The method of claim 26, further comprising:

contacting the substrate with a second monomer, wherein a second type of particle catalyzes the polymerization of the second monomer;

obtaining a third particle detection on the substrate; and

comparing the results of the particle detection steps to identify the second type of particle.

31. The method of claim 30, further comprising repeating the contacting, obtaining, and comparing steps to identify further types of particles.

32. The method of claim 25, wherein the particle counter detects a property selected from the group consisting of number of particles, sizes of the particles, positions of the particles, and combinations thereof.

33. The method of claim 25, wherein the particle counter is capable of detecting particles on both sides of the substrate without unmounting the substrate.

34. The method of claim 25, wherein the particle counter detects particles optically.

35. The method of claim 34, wherein the optical scanner is a laser scanner.

36. The method of claim 34, wherein the particle counter detects a property selected from the group consisting of absorbance, fluorescence, reflectance, refractive index, and polarization.

37. The method of claim 27, wherein the monomer is polymerized by a plurality of particle types.

38. The method of claim 25, wherein the substrate is contacted with a plurality of monomers.

39. The method of claim 38, wherein a plurality of monomers contact the substrate simultaneously.

40. The method of claim 38, wherein a plurality of monomers contact the substrate sequentially.

41. The method of claim 25, wherein the particle is a metal.

42. The method of claim 41, wherein the metal is copper.

43. The method of claim 25, wherein the substrate comprises silicon.

44. The method of claim 43, wherein the substrate comprises a single crystal silicon wafer.

45. The method of claim 25, wherein the monomer is in the vapor phase.

46. The method of claim 25, wherein the monomer is an alkene.

47. The method of claim 46, wherein the alkene is selected from the group consisting of styrene, methyl acrylate, ethyl acrylate, methyl methacrylate, and acrylonitrile..

48. The method of claim 25, wherein the monomer is selected from the group consisting of aniline and thiophene.

49. The method of claim 25, further comprising an initiator.

50. The method of claim 49, wherein the initiator is benzyl bromide.

51. The method of claim 25, wherein the substrate is irradiated with electromagnetic radiation.